Space Weather Forecast

Issued on Tuesday, 10 May 2022 at 01:30 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

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Space Weather Forecast Headline: Chance of Minor Geomagnetic Storm on 10 May. Slight chance of Moderate-class X-ray flares and R1/R2 radio blackouts throughout.

Analysis of Space Weather Activity over past 24 hours
Solar Activity: Solar activity has been Low, with only insignificant Common-class flare activity. The most active region has been the prominent region in the south-centre of the Sun. Further regions in the southeast currently appear simple in complexity, but will be monitored for further potential activity and development. No Earth-directed CMEs have been observed in the last 24 hours.

Solar Wind / Geomagnetic Activity: The solar wind has been slow throughout. Total magnetic field strength of the solar wind has been weak, with the important north-south component also varying weakly. Resulting geomagnetic activity was mainly Quiet, with one Unsettled interval.

Energetic Particles / Solar Radiation: No solar radiation storms were observed.

Four-Day Space Weather Forecast Summary
Solar Activity: Solar activity is expected to be mainly Low, with a slight chance of Moderate activity. This is mainly due to an evolving prominent region close to south-centre disc.

Solar Wind / Geomagnetic Activity: A CME which left the Sun on 06 May is due directly impact the Earth during 10 May. A slightly elevated fast wind is also expected to connect with the Earth on 10 May. There is a slight chance of Active or G1 Minor Storm intervals on 10 May due to the possibility of either feature affecting the Earth, or due to a mixture of the two. Residual effects are then possible on 11 May, with a slow return to Quiet or Unsettled conditions on 12 and 13 May.

Energetic Particles / Solar Radiation: No solar radiation storms are expected, with a daily slight chance of solar radiation storms largely due to the result of one of the largest sunspot's position near the better-connecting (with Earth should it produce a proton-rich flare) western solar horizon and also for a region moving into the western hemisphere.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

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Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	30	20	1	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	20	20	20	20
Very Active	R3 to R5 X	No	5	3	3	3

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	5	5	5	5
Very Active	≥ S3 *	No	1	1	1	1
* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)						

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